

**REGIONALIZING MUNICIPAL STORMWATER MANAGEMENT
IN CENTRAL MASSACHUSETTS THROUGH COLLABORATIVE
EDUCATION, DATA MANAGEMENT, AND POLICY
DEVELOPMENT**



2013 Community Innovation Challenge Grant

Administered by the MA Executive Office of Finance & Administration

FINAL REPORT – Submitted April 30, 2014

Participating Communities (30):

Auburn, Boylston, Charlton, Dudley, Grafton, Hardwick, Holden, Hopkinton, Leicester, Millbury, Monson, Northbridge, Northborough, North Brookfield, Oxford, Palmer, Paxton, Rutland, Shrewsbury, Southbridge, Spencer, Sterling, Sturbridge, Upton, Uxbridge, Ware, Webster, Westborough, West Boylston, and Wilbraham

Project Partners:

Tata & Howard – Lead Engineering Consultant

Verdant Water – Stormwater Engineering Sub-Consultant

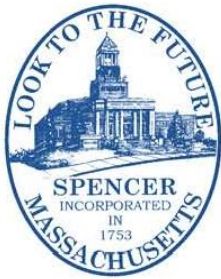
PeopleGIS – Mapping & Database Consultant

MA Department of Environmental Protection (MA DEP) – Stormwater Coordination

Worcester Polytechnic Institute (WPI) – Student Field Survey Services

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April 30, 2014

Secretary Glen Shor
Executive Office of Administration & Finance
Massachusetts State House, Room 373
Boston, MA 02133

RE: 2013 CIC Program – Final Report: Regionalizing Stormwater in Central Massachusetts

Dear Secretary Shor:

Please find enclosed the Final Report for the Regionalizing Stormwater in Central Massachusetts project that was funded partially through the 2013 CIC Grant Program. The report is a comprehensive summary of an intense effort conducted by 30 communities in Central Massachusetts, along with several Project Partners, to address the challenge of implementing Municipal Stormwater Management through a regional collaboration of Education, Data Management, and Policy Development.

The 2013 project efforts were a follow-up to our 2012 CIC Grant Award. This year's project expanded the municipal participants from the original 13 communities and added 17 expansion communities for a total of 30 communities working together for the purposes of approaching municipal stormwater programming from a regional basis in order to achieve substantial cost savings through economies of scale, improved efficiencies, and the removal of redundancies.

The project continues to be a regionalization success story and epitomizes the CIC goal of transferability, as not only did we grow from 13 to 30 communities this past year, but several other regional stormwater groups have since been established in Massachusetts utilizing our program as a model to achieve the same goals of approaching stormwater management from a regional perspective.

On behalf of the project communities and partners, we would like to thank the Secretary and his dedicated staff for the opportunity to achieve great regional successes as a result of our 2012 CIC Grant Program and our 2013 CIC Grant Program, and we also look forward to our continued relationship through the 2014 CIC Grant Program.

Best regards,

Adam Gaudette

Adam D. Gaudette
Town Administrator

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Executive Summary

The original thirteen member towns that formed the *Central Massachusetts Regional Stormwater Collaborative* through the FY2012 CIC Grant Program sought to develop a regional approach to address the priority of protecting water quality for current users and future generations. This joint effort was designed to achieve service efficiencies and realize cost savings through the collaboration of education and training, sharing a common data base management system, and the standardization of policies and procedures.

Efficiencies would be achieved through the sharing of ideas and tasks rather than an autonomous approach to managing municipal stormwater. These cost savings were achieved through a joint effort, one-consultant guided project, rather than thirteen towns undertaking these tasks individually. This regional stormwater management initiative benefitted each of towns and provided them with a framework and the tools for a sustainable effort on this critical issue.

The project was designed to collectively address municipal mandates designed to protect water quality issued by the Federal Environmental Protection Agency (EPA) through Municipal Separate Storm Sewer System (MS4) Permits. The member towns saw the benefit of tackling this challenge through regionalization, as neighbors, sharing stormwater systems, sharing surface water resources, and sharing the need to ensure the long term protection of these resources. By sharing data and policies, the towns successfully establish programs collectively protect the resources we share and are working together to meet the standards that EPA has set for municipal stormwater management.

The 2013 CIC Grant Program strengthened the Coalition's mission by adding 17 new communities providing for a regional group with a vast network of municipal officials, engineers, planners, and environmentalists that would be collaboratively continuing the work of the original 13 communities. In addition to expanding the previously completed tasks to the new communities, the 2013 project efforts also advanced the entire group by producing new tools and services in the effort to enhance stormwater management programs in the spirit of collective water quality control.

Section I: Partner Communities

Application Preparation

Spencer Town Administrator Adam Gaudette, Charlton Town Administrator Robin Leal Craver, and Leicester Town Administrator Robert Reed prepared the grant application with technical assistance from Aubrey Strause, Project Manager from Tata & Howard.

Lead Community

The Town of Spencer served as the lead community for the project and main contact for Administration & Finance ("A&F") as well as in coordination with the other 29 municipal members and project partners. Responsibilities included conducting A&F contract administration, participating in conference calls, coordinating receipt of grant disbursements and amendments; as well as conducting subcontractor contract administration such as coordinating counsel review and lead community Board of Selectmen contract authorization (in compliance with Spencer's Town Charter/ Legislative Act).

Participating Communities (30):

The member towns for this project are Auburn, Boylston, Charlton, Dudley, Grafton, Hardwick, Holden, Hopkinton, Leicester, Millbury, Monson, Northbridge, Northborough, North Brookfield, Oxford, Palmer, Paxton, Rutland, Shrewsbury, Southbridge, Spencer, Sterling, Sturbridge, Upton, Uxbridge, Ware, Webster, Westborough, West Boylston, and Wilbraham.

All 30 municipal partners assigned an administrative contact (Town Administrators/Manager) and at least one technical staff person (DPW Director, Engineer, other) to represent their respective communities for the project and attend group project meetings as necessary. All of the partners' technical staff participated in reviewing and coordinating project deliverables for each quarter.

A Steering Committee formed for the purposes of holding small group project meetings to be held directly with the lead project consultant (Tata & Howard) in order to provide required feedback and approve draft deliverables. The Steering Committee was also responsible for guiding the project scope and budget management. The Steering Committee held 6 project meetings and several training sessions.

Project Partners:

- Tata & Howard – Lead Engineering Consultant. Project Manager Matt St. Pierre guided the project Steering Committee by preparing product deliverables, coordinating meetings and purchases, and line-item budget management.
- Verdant Water – Lead Sub-Consultant. Project Manager Aubrey Strause assisted Tata & Howard with project oversight.
- PeopleGIS – Sub-Consultant hired for Mapping & Database tasks.

- MA Department of Environmental Protection (DEP) – Fred Civian, State Stormwater Coordinator was a regular participant.
- Worcester Polytechnic Institute (WPI) – Field Survey Services – student project.

Section 2: Goals

The overall goal of the application for “Regionalizing Municipal Stormwater Management in Central Massachusetts through Collaborative Education, Data Management, and Policy Development” was to devise a means of addressing unfunded Federal Stormwater Mandates issued by US EPA. The 30 member towns, known as the “Central Massachusetts Regional Stormwater Collaborative”, had been unable to address these mandates during a period of fiscal constraint as a result of a downward economy. The grant program provided an avenue for funding tasks to address the mandates and the path of regionalization would provide collaboration.

The project was designed such that project tasks were aligned with the goals established by A&F for the Community Innovation Challenge Grant Program. These goals included Innovation, Cost Savings, Enhanced Level of Service, Efficiency, Removal of Redundancy, and Applicability and Transferability to other governments.

Innovation

The project itself was innovative in that there was no collaboration such as the one being proposed in existence in Massachusetts. Some communities began to systematically address stormwater through DPW operating budgets but certainly not to the extent that this project proposed. Some of the innovations included an education website, standardized templates (SWPPP), and regional mapping of stormwater systems.

Cost Savings

The group estimates that the 30 communities have saved several hundred thousand dollars each through this project avoiding tackling stormwater mandates on an individual basis. Also, without this project, if each Town had to conduct its own mapping without the economy of scale or partnership from DEP and WPI, purchase its own survey equipment and water quality test kits, had to hire individual consultants to engineer and plan all of the Standard Operating Procedures, set up individual web pages, and prepare all the necessary education materials, it is very likely that the majority of the communities would not have developed or advanced their stormwater management programs and would be violation of USEPA compliance and be subject to fines and penalties.

Enhanced level of Service

The project proposed an enhanced level of service in terms of contributing to the valuable goal of protecting natural water resources through stormwater management within each community. Each community greatly enhanced their ability to educate the public, personnel, and local

officials on this important issue, and in addition prepared policies and procedures for staff to carry through on its efforts in water quality protection. Also, the regionalized mapping system gave all of the communities, integrated, electronic access to the mapping of neighboring towns' stormwater management infrastructure systems.

Efficiencies

Each town has accelerated its stormwater management program to a high level through the use of shared consultants, sharing in the creation of training programs and policy and procedure templates, sharing a group educational website, sharing one mass mapping and infrastructure database, and sharing equipment. Sharing provides for an efficient means of spending taxpayer dollars and administering municipal programs.

Removal of Redundancy

A key goal for the project was to collaborate such that each community was not left to create its own stormwater management program; establishing education and training programs, policies and procedures, and mapping its infrastructure, all in a manner that was separate from each other and essentially “reinventing the wheel” in each community. Through this project, and the sharing of ideas through the professional, technical staff of each community and the guidance of private consultants, the solutions and tasks were prepared at a high level of quality in terms of meeting US EPA mandates and addressing water quality protection through stormwater management.

Applicability and Transferability to Other Governments

The final goal of the project was to create documents and methods that were transferrable to other communities and governments as they undertake their efforts to address stormwater management. We feel that the success of this goal is outlined in the project's ability to be expanded by adding 17 new communities in 2013, forming our now 30-town coalition, and in addition, as evidenced in the 2014 CIC Grant Program, new regional stormwater collaborative have received funding and are modeling their programs after this project.

Section 3: Implementation Plan

The member towns met all project goals of the Work Plan and provided all project Deliverables as required in Attachment A of the Grant Agreement with A&F.

Quarter 1 required: (1) the re-establishment of a Steering Committee, (2) the hiring of the Lead Project Consultant and Sub-Consultant, (3) the purchase of 17 tablet devices for the expansion communities, and (4) implement the original seven 2012 tasks for the expansion communities through training.

Quarter 2 required: (1) training for the expansion communities on the mapping and database tools and systems, (2) training on water quality sampling, and (3) provide training on the addendum tasks from 2012 for the expansion communities.

Quarter 3 required: (1) integration of the new member town's stormwater system mapping, (2) expand and enhance the coalition website, (3) implement field services, and (4) conduct industrial stormwater (MSGP) reviews for all of the 30 communities.

Please find below the project timeline as outlined in the application that has been implemented.

Task Name	Duration	Start	Finish	March '13	April '13	May '13	June '13	July '13	Aug. '13	Sept. '13	Oct. '13	Nov. '13	Dec. '13
EXPANDING: Implementing FY2012 in New Coalition Communities													
Task 19: Incorporate Expansion Community Data into Integrated Mapping (FY2012 Tasks 9 & 10 [Tasks DMS-1 and DMS-2])	10 months	1-Mar-13	31-Dec-13										
Task 20: Implement Tasks 1-7 for Expansion Communities	4 months	1-Mar-13	30-Jun-13										
Task 21: Implement Addendum Tasks (12-18) for Expansion Communities	3 months	1-Aug-13	31-Oct-13										
Task 22: Purchase Tablet Computer Devices for Expansion Communities	2 months	1-Mar-13	30-Apr-13										
Task 23: Provide PeopleGIS Training to Expansion Communities	4 months	1-May-13	31-Aug-13										
Task 24: Two Years Additional Support for Expansion Communities*	24 months	1-Mar-13	-										
ADVANCING: Building on FY2012 Work in Original Coalition Communities													
Task 25: Expand FY2012 Integrated Mapping for 13 Original Communities	10 months	1-Mar-13	31-Dec-13										
DEVELOPING: Providing Tools and Services to Move all Coalition Communities Forward													
Task 26: Expand and Enhance Coalition Website	10 months	1-Mar-13	31-Dec-13										
Task 27: Complete Field Work Using the Year 1 Stormwater Field Services RFP	8 months	1-Mar-13	31-Oct-13										
Task 28: Purchase a Storage and Transport Equipment Trailer	2 months	1-Mar-13	30-Apr-13										
Task 29: Training on Water Quality Sampling	4 months	1-May-13	31-Aug-13										
Task 30: Industrial Stormwater (MSGP) Review	2 months	1-Nov-13	31-Dec-13										
Task 31: Facilitation and Coordination	10 months	1-Mar-13	31-Dec-13										

* - Task 24: Two Years Additional Support for Expansion Communities, includes support beyond the scope of this schedule.

Section 4: Budget

The original budget for the project was prepared for \$200,000 and was broken down into the 3 main categories of Expanding, Advancing, and Developing. These were further broken down into 12 task categories as illustrated below. The project tasks were established to meet the requirements of EPA's Stormwater Management Mandates as they apply to MS4 permitting. The coalition also carried Administration costs under a separate heading. The original budget is illustrated in the matrix below.

Application for FY2013 Community Innovation Challenge Grant Central Massachusetts Regional Stormwater Coalition Stormwater Management Services		
Task No.	Task Description	Total Task Cost
EXPANDING: Implementing FY2012 in New Coalition Communities		
19	Incorporate Expansion Community Data into Integrated Mapping (FY2012 Tasks 9 & 10)	\$25,000.00
20	Implement Original FY2012 Tasks (1 through 7)	\$17,000.00
21	Implement FY2012 Addendum Tasks for Expansion Communities	\$8,500.00
22	Purchase Tablet computers (w/ accessories and service)	\$24,130.00
23	Provide Training on PeopleGIS system and Leica device	\$3,000.00
24	Provide Support for Expansion Communities (PeopleGIS and Tata & Howard)	\$39,950.00
ADVANCING: Building on FY2012 Work in Original Coalition Communities		
25	Expand FY2012 Integrated Mapping w/ Additional Infrastructure	\$11,500.00
DEVELOPING: Providing Tools and Services to Move all Coalition Communities Forward		
26	Expand and Enhance Coalition Website	\$7,250.00
27	Complete Field Work Using the FY2012 Stormwater Field Services RFP	\$30,670.00
28	Purchase a Storage and Transport Equipment Trailer	\$8,500.00
29	Provide Training on Water Quality Sampling	\$5,000.00
30	Complete an Industrial Stormwater (MSGP) Review	\$10,500.00
ADMINISTRATION		
31	Facilitation and Coordination	\$9,000.00
		\$200,000.00

As the 2013 project was being implemented, it was determined that there was a greater need for other critical purchases rather than buying a shared Storage Trailer to transport shared equipment and supplies. The coalition thought these funds (\$8,500) would be best used to support the shared survey equipment (2 Leica's) and also should be used for additional Ammonia Test Kits and Water Quality Test Strips. Thus, an Amendment was submitted and approved by A&F.

Section 5: Challenges and Solutions

The initial challenge for the project was expanding the 13-town regional coalition that was established in 2012. Regionalization is a difficult enough when trying to share a service or position with one community. The coalition proved it could be done with the original 13 towns with a shared vision, common goals, and the cohesiveness of a strong Steering Committee. The test of our claim to be transferable would be tested with the 2013 Grant Application.

A lot of variables come into play when seeking regionalization partners, most importantly funding and timing. In the case of the 2013 application, funding again would be primarily addressed if the project was awarded. Towns would have to contribute limited matching funds, only time from staff in terms of reviewing deliverables and attending meetings and trainings would be required. As far as timing was concerned, the US EPA was continuously working on their efforts to issue their new MS4 permits which meant the issue itself remained of high profile. Most towns had done little to address the 2003 MS4 Permit and the new 5-year permit that would eventually be issued would contain additional costly requirements. Towns were already frustrated with the inability to address, and were becoming even more so. When trying to expand the project to the 17 new communities, the idea of a regional stormwater program which had already achieved a great amount of success, and would help them address these mandates with funds from a State innovation grant, the new towns jumped at the opportunity.

A major hurdle was the unexpected notice from A&F that the project would be awarded, but at a reduced funding allocation amount. The project application was for the maximum expansion amount of \$200,000. A&F, due to the competitiveness of the grant process and the vast array of applications, was only able to commit \$115,000 to our expansion project. The Steering Committee quickly met to discuss alternatives. The first option of reducing the original scope by eliminating tasks was brushed aside as any reduction of the project scope to match the grant award would result in either the expansion communities not being brought up to match the original communities, or would leave the original communities without receiving the benefit from any new tasks. Thus, a request for the 30 communities to contribute towards the gap of \$85,000 resulted in each community being asked to commit \$2,833 each. Twenty-eight of the 30 communities agreed and two substitute communities were acquired to keep the community representation at 30 participating towns. Each community had to sign an Intermunicipal Agreement with the Lead Community for the commitment to participate and the commitment to contribute the required funds. This option was successful and the project scope went forward as it was then fully funded.

Once the project began the challenge of coordinating 30 towns was realized. The re-establishment of the Steering Committee was a critical means of overseeing the consultant and project task development. The Steering Committee expanded its membership to allow for interested professionals from the new communities to sit in on the decision making for the project. The additional method of communication through a roster of an administrative contact (Town Administrator for example) and a technical contact (DPW Director for example) for each community was also critical to keep all communities informed of the work being done through the project. As with the 2012 CIC Grant, the management representatives for the Steering Committee were responsible for regular communication with the administrative contact for all

the communities and the technical representatives were responsible for communicating with the technical contacts for each community.

Hosting of regular meetings was rotated by Steering Committee member communities. A lot of work was coordinated outside of meetings as well such as the review of document deliverables. A website host was used to store large document files and through an invitation to connect, members' personnel were able to access and download multiple large files for review and comment.

Finally, as the sharing of field survey equipment task was undertaken, the website provided a creative means of providing a schedule for available and assigned use times. The lead community for the project, the Town of Spencer, also became the base community for housing the community when not being used by the member communities. A policy for sharing was created so as each member community understood its responsibilities when utilizing the shared equipment.

Section 6: Outcomes

Successful Implementation

The most important measure of success for our project is Successful Implementation. The project was able to meet predetermined budget and timeline requirements. The implementation was successful due to the strong collaboration between staff from neighboring communities with shared goals for the project and for their communities. The Steering Committee and all others that attended meetings and trainings were instrumental in the development of the high quality deliverables that were produced. Also, the project may certainly not have been a success if it wasn't for the guidance offered by our project consultants, Matt St. Pierre from Tata & Howard, and Aubrey Strause, P.E. from Verdant Water. They were both assets to the project and their guidance was crucial to the success of the project.

Quantified Cost Savings, Service Enhancements and Efficiencies

As mentioned previously the cost savings, service enhancements, and efficiencies that were achieved, were substantial in raising each community to a common benchmark where their data could be shared efficiently, each town had required policies and procedures in place, and each town had education and training programs in place which are essential tools of ensuring proper stormwater management.

Applicability and Transferability to other Local Governments

Finally, as expressed in the application and same with the 2012 project, all of the documents that were produced are transferrable in that they are templates that can easily be edited to meet each community's operations as they relate to stormwater management. In addition, this collaboration model, which includes sharing data, equipment, and education technology (i.e. website) serves as a cost effective, efficient means of addressing unfunded stormwater management mandates that is now being implemented by other regions throughout the Commonwealth.

Contact Information

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References & Resources

Information regarding this project, including project deliverables and links to other related programs, can be found at the [website for the Central Massachusetts Regional Stormwater Collaborative](#).